

DEPARTMENT of ENVIRONMENTAL SERVICES  
Water Division - Watershed Management Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: DARRAH POND	Lake Area (ha): 7.00
Town: LITCHFIELD	Maximum depth (m): 8.4
County: Hillsborough	Mean depth (m): 1.8
River Basin: Merrimack	Volume (m <sup>3</sup> ): 128000
Latitude: 42°49'52" N	Relative depth: 2.8
Longitude: 71°26'40" W	Shore configuration: 1.00
Elevation (ft): 178	Areal water load (m/yr): 3.80
Shore length (m): 800	Flushing rate (yr <sup>-1</sup> ): 2.10
Watershed area (ha): 57.0	P retention coeff.: 0.71
% watershed ponded: 0.0	Lake type: natural

BIOLOGICAL:

23 January 2002

27 June 2001

DOM. PHYTOPLANKTON (% TOTAL)	#1	DINOBRYON 90%	MOUGEOTIA 30%
	#2	MOUGEOTIA 6%	FILAM. GREEN 30%
	#3	ASTERIONELLA 4%	TINY CENTRIC DIATOM SPP 20%
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			16.94
DOM. ZOOPLANKTON (% TOTAL)	#1	NAUPLIUS LARVA 65%	CALANOID COPEPOD 25%
	#2	ASPLANCHNA 17%	GASTROPUS 24%
	#3	CALANOID COPEPOD 9%	NAUPLIUS LARVA 13%
ROTIFERS/LITER		134	141
MICROCRUSTACEA/LITER		489	227
ZOOPLANKTON ABUNDANCE (#/L)		634	368
VASCULAR PLANT ABUNDANCE			Common
SECCHI DISK TRANSPARENCY (m)			3.6
BOTTOM DISSOLVED OXYGEN (mg/L)		13.2	5.9
BACTERIA (E. coli, #/100 ml)	#1		1
	#2		< 1
	#3		< 1

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 4.4  
Hypolimnion volume (m<sup>3</sup>): None  
Anoxic volume (m<sup>3</sup>): None

**CHEMICAL:**

Lake: DARRAH POND

Town: LITCHFIELD

	23 January 2002		27 June 2001		
DEPTH (m)	1.5	3.0	2.0		4.0
pH (units)	5.0	5.0	4.8		5.0
A.N.C. (Alkalinity)	-0.3	-0.3	-0.9		-0.4
NITRATE NITROGEN	0.09	0.07	0.11		0.08
TOTAL KJELDAHL NITROGEN	0.40	0.40	0.70		1.20
TOTAL PHOSPHORUS	0.007	0.007	0.011		0.013
CONDUCTIVITY ( $\mu$ mhos/cm)	25.2	25.2	26.2		23.7
APPARENT COLOR (cpu)	< 5	< 5	10		17
MAGNESIUM			0.25		
CALCIUM			< 1.0		
SODIUM			1.7		
POTASSIUM			0.71		
CHLORIDE	3	3	2		2
SULFATE	3	3	3		3
TN : TP	70	67	74		98
CALCITE SATURATION INDEX					

All results in mg/L unless indicated otherwise

**TROPHIC CLASSIFICATION: 2001**

D.O. S.D. PLANT CHL TOTAL CLASS

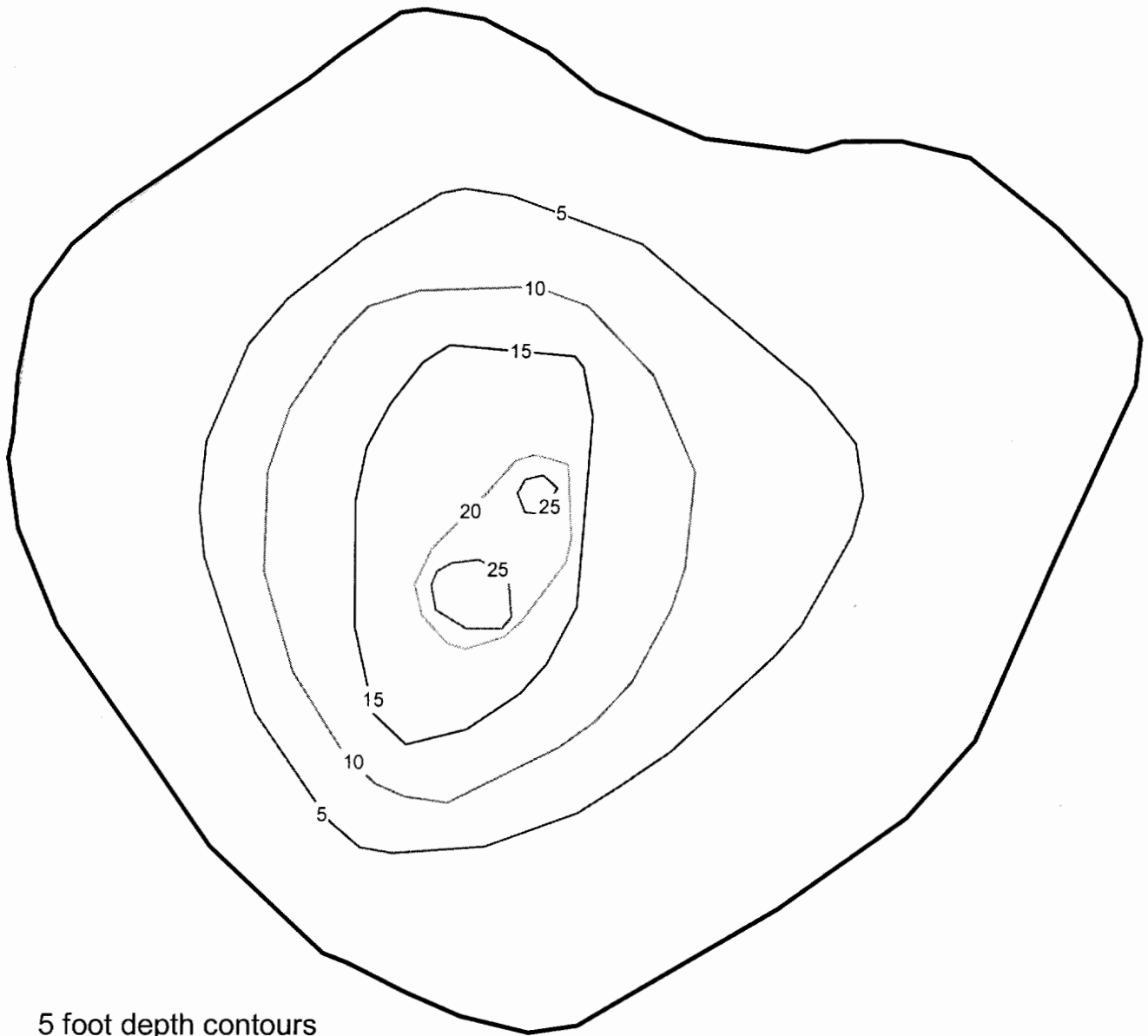
**	2	3	3	8	Meso.
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**COMMENTS:**

1. Previously surveyed in 1985. The planktonic algae biomass (chlorophyll) was an order of magnitude higher in 2001 (16.9 vs 1.6 in 1985). The water clarity went from visible on bottom at 7.6 m in 1985 to 3.6m in 2001. The trophic class changed from oligotrophic to mesotrophic between 1985 and 2001.
2. This pond was subjected to a dramatic drawdown of water level in 1999-2000, presumably from excessive withdrawal of groundwater from the area. It was back at full pool during the 2001 survey but the drawdown may have been responsible for the decline in water quality.
3. A town recreational area and town beach is located adjacent to the pond.
4. This is an acidified pond with negative alkalinity.

# Darrah Pond

Litchfield



5 foot depth contours

0 0.05 0.1 Kilometers



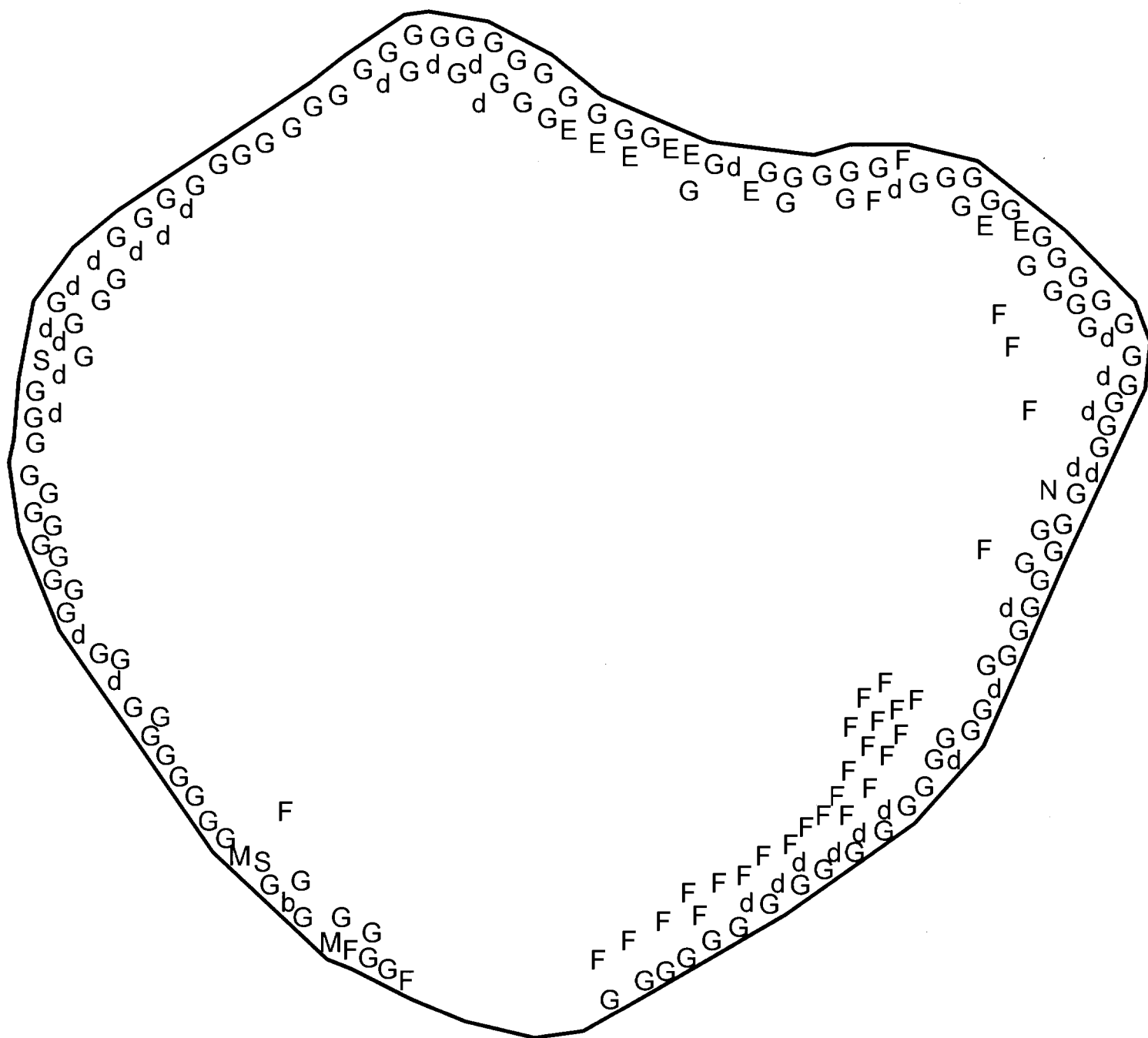
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# Darrah Pond

Litchfield



0 0.05 0.1 Kilometers



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